Towards a Diverse Faculty of Science at UBC Vancouver

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1 Background

A diverse faculty signals that the academy draws from the best talent available, that our students get a well-rounded education, that our research programs are informed by diverse perspectives, and that there is equitable access to the rewards of an academic career. The 2007 UBC Science Working Climate Report, as well as the 2004 Report on Parental Leave Policies at UBC and the 2003 report of the FoS Committee on Mentoring of New Faculty, point to ways in which the Faculty of Science at the University of British Columbia Vancouver (UBC FoS) falls short in providing a supportive and equitable environment for our faculty, and give thoughtful recommendations on steps that UBC FoS, and the UBC administration, can take to remedy current problems.

In this document, we aim to chart a course for positive change. Experience at other institutions, as well as the results of earlier efforts at UBC, show that focused attention does make a difference. Indeed, given the strides at our peer institutions, UBC risks compromising its competitiveness if it does not act effectively.

Transforming our academic structures and processes to enhance the diversity our faculty and eliminate bias requires leadership and a deep commitment from all of us – from faculty members and administrators, from individual departments, from the Faculty of Science and UBC. We sincerely thank our many colleagues who gave us feedback on an earlier draft of this plan.

2 Changing Institutions: North American Perspective

> "Diversity [...] refers to the variety of personal experiences, values, and worldviews that arise from differences of culture and circumstance. Such differences include race, ethnicity, gender, age, religion, language, abilities/disabilities, sexual orientation, socioeconomic status, and geographic region, and more."
> – University of California Diversity Statement

Across Canada and the United States, leaders of colleges and universities have publicly expressed their commitment to increasing the diversity of their institutions (for two examples, see the statement by President John Hennessy of Stanford, and University of Toronto's statement. Strategies that deliver on universities' commitment to diversity are multi-faceted, serving a broad range of institutional needs. At some universities, such efforts are complemented by initiatives within science and engineering faculties that are targeted at increasing faculty diversity. In the rest of this section, we provide perspective on a few such initiatives, which often have a focus on increasing the representation of women faculty and (to a lesser extent) members of racial and ethnic minority groups.

The US: Longitudinal data on US PhD production, such as Donna Nelson's 2007 National Analysis of Diversity on US trends in Science and Engineering for both women and minorities, show that the slow progress in increasing the representation of under-represented groups in

faculty positions is not just a "pipeline issue" that will correct itself once more students complete their PhD in Science. A 2007 EMBO study by Martinez et al. of women in the biomedical sciences also shows a sharp drop-off in the percentage of women in post-doctoral versus tenure-track positions. Explanatory factors suggested by the EMBO survey data included family demands, spousal employment status, and confidence in obtaining a position. Many other studies, such as Mary Ann Mason's Do Babies Matter Project and Virginia Valian's Gender Equity Project provide more insight on the challenges faced by women who pursue academic careers.

Several institutions are now working hard to turn things around. A landmark 1996 report by Hopkins et al. on the status of women faculty at the Massachusetts Institute of Technology (MIT), together with unusual effort by MIT Dean of Science Robert Birgeneau, led to gains in the percentage of women hired between 1996 and 2000. Elsewhere in the US, a major catalyst of change has been the ADVANCE program, funded by the National Science Foundation (NSF). Additionally, the Sloan Foundation has provided significant funding to institutions that are leaders in working towards faculty equity, providing support for UC Berkeley's Family Friendly Edge project and University of Washington's Balance@UW project. Examples of some initiatives funded through these programs are given later in this document; they include new recruiting practices, improved policies, mentoring structures for faculty, and support for work/life balance.

With respect to hiring of faculty from under-represented minority groups, a successful approach at several US universities has been to provide central strategic funding. An insightful longitudinal analysis of this approach at UW Madison, by Linda S. Greene and Margaret N. Harrigan, can be found in the book "What makes racial diversity work in higher education", edited by Frank W. Hale, Jr., Stylus Publishing, LLC.

Canada. AUCC's[1] 2007 Trends in Higher Education, as well as Drakich and Stewart's Academic Matters article, provide historical perspective on the slowly increasing percentage of women in faculty positions at Canadian institutions. By 2006, women accounted for one on three faculty positions, but there are significant differences by discipline, with women filling only 20% of the positions in mathematics and the physical sciences. Unfortunately, data on the representation of other under-represented groups is scant. As noted in the November 2007 CAUT Equity Review, "Persistent concerns remain within Canadian colleges and universities about the nature and extent of the barriers facing academic staff who are members of equity-seeking groups – women, visible minorities, Aboriginal peoples, persons with disabilities, and lesbian, gay, bisexual and transgendered [people. …] Despite its importance, a complete and reliable picture of the status of equity-seeking groups in Canada's universities and colleges is not available."

At Canadian institutions, there have been valuable efforts to help recruit and retain more women. NSERC's University Faculty Awards (UFA) program has helped fund for faculty positions for women in science and engineering at Canadian research institutions. However, the NSERC ended the program with the 2008 UFA competition[2]. A significant advantage of many Canadian institutions, compared with many US institutions, is the availability of paid maternity and parental leave for faculty, and extension of the tenure clock. Studies at the University of Calgary and McGill University document the status of women faculty at other Canadian institutions, and strategies for follow-up have been planned. The University of Toronto

[1] AUCC: Association of Universities and Colleges of Canada
[2] See UFA program site of the Natural Sciences and Engineering Research Council of Canada (NSERC) (www.nserc.gc.ca/sf_e.asp?nav=sfnav&lbi=c7)

has recently completed an Employee Experience "Speaking UP" survey; their Family Care Office has earned recognition for its family-friendly policies. The University of Alberta's Project Catalyst aims to "increase the diversity, especially the percentage of women, in faculty positions in the Faculty of Science."

Compared with programs to recruit and retain women, institutional programs with focused attention on recruitment and retention of other under-represented groups in science are hard to find. Professional organizations, such as the Canadian Aboriginal Science and Technology Society provide resources and support for networking among Aboriginal graduate students and faculty.

UBC. At UBC, an Employment Equity Plan is administered by the Equity Office, consistent with a framework developed by the Federal Contractors Program. UBC's 2006 Equity Annual Report describes the representation of employees from the four groups designated by the Federal Contractor's Program, showing that the percentage of women, visible minorities, Aboriginal people, and people with disabilities who were faculty in FoS as of May 2006 were about 19%, 10%, less than 1%, and about 4%, respectively, compared with about 47%, 13%, 2.5%, and 5% in the Canadian Labour Force (see Figs 8 and 21 of that report).

Attention to and progress on increasing the representation of women faculty in Science has been sporadic. Early studies by Day (1973) and Ledwig-Rigby (1993) provided valuable data on the representation of women faculty (showing, for example, that the number of female full professors in FoS had doubled – increased from 2 to 4 – in twenty years), and recommendations for change. In the 1990's, under the leadership of Sharon Kahn, Associate Vice President, Equity Office, FoS Deans Barry McBride and Maria Klawe, and Associate Dean Judy Myers, FoS departments developed hiring plans that addressed diversity goals, and progress was made in increasing the representation of women faculty.

The period of 2003 to 2007 was a time of significant faculty hiring for FoS – and a time of significant turnover in the Dean's Office. Women comprised about 16% of the total faculty hired – significantly less than the percentage of female doctoral graduates from Canadian and US institutions. (For example, AUCC's 2007 Trends in Higher Education shows that the share of women doctoral graduates from Canadian institutions between 2002 and 2004 was over 20% in each scientific discipline and much larger in some, being over 40% in the biological sciences. Donna Nelson's US data are comparable.) In contrast, the University of Washington's ADVANCE program reports that 25% of the faculty hires in science *and* engineering were women, over roughly the same period; similar gains in hiring were reported by other ADVANCE institutions. At Arizona State University, under the leadership of Divisional Dean Simon Peacock in 2005/06, 43% of faculty hires (21 of 49) in the natural sciences and mathematics were women, and 26% (13 of 49) were members of under-represented groups. Another cause for concern, given the impending termination of the UFA program, is that 13 of the 35 women who were hired as assistant or associate professors since 2000 and are still at UBC, were hired through the UFA program.

UBC Science can do better and there is much commitment now on campus to work proactively to increase the number of faculty from under-represented population groups in science (as well as other disciplines) and better support our faculty. The goals laid out by the UBC People Plan (Focus on People: Workplace Practices at UBC) and Trek 2010 document align well with our vision of a diverse faculty. FoS Department Heads are all strongly committed to diversity goals; there are already some strong practices in our departments, and at other institutions.

3 Goals

We are committed to increasing the diversity of UBC Science, at faculty, post-doctoral, and graduate and undergraduate student levels, and across departments, and in supporting both excellence at work and balance with other life choices. We believe that progress on these fronts will strengthen the scope and quality of our research and our educational programs. Accordingly, in the next five years, we aim to

1. **Increase** the **representation** of under-represented population groups on our faculty through effective recruiting and retention practices.

2. **Achieve equity** for people of under-represented population groups with respect to measures of career success and recognition, including time to and rate of promotion, allocation of retention resources, and receipt of awards.

3. **Support** work/life balance for **faculty**, and foster a collegial culture within and across departments and ranks.

Our strategies strongly build on other institutional efforts that have a focus on women and (to a lesser extent) other designated under-represented population groups. We recognize that, as a result, they are imperfect as a means of more broadly supporting a diverse faculty. In particular, they do not necessarily address issues faced by members of invisible minority groups, such as gay, lesbian, bisexual, transgendered and two-spirited (LGBQTT) groups. When developing and refining our strategies, we will strive to be sensitive to the many dimensions of diversity, and will continue to consult widely with our faculty community.

While not the focus of this proposal, we also recognize the need to work on initiatives that expand the pipeline of students from under-represented groups who will be faculty members in the future. The Faculty of Science is pleased to have recently received the Vivien M Srivastava Endowment, which will support workshops that address barriers faced by female graduate and post-doctoral students who wish to enter research careers. The Jade Project supports female students in FoS (and Applied Science) departments and throughout the province. Under the leadership of Tim Michel, FoS and Agricultural Sciences implement First Nations Initiatives, aimed at recruiting, retaining, and supporting Aboriginal science students. We plan to take advantage of networking opportunities with Science graduate students provided by the Canadian Aboriginal Science and Technology Society.

4 Strategies

The executive summary of the Working Climate Assessment recommends that an Associate Dean for Faculty Affairs, together with a body of representatives from all departments, should

- Develop transparent and equitable procedures and policies for hiring, promotion, retention, awards, and merit reviews.
- Establish mentoring programs to maximize potential, and promote effective leadership.
- Clarify distribution of resources: develop clear, equitable allocation schemes and provide centralized support for appropriate services.
- Improve access to childcare, housing costs, leave, and retirement options.

The Associate Dean and the body of representatives – the Faculty Affairs Committee of the Faculty of Science (FAC@FoS) – are now in place. Several staff members at the Dean's Office will provide assistance. Parts of the plan are best handled at the department level, parts by the Dean's Office, and parts require advocacy with UBC's administration. We will avail of resources already developed by other institutions and organizations, such as the NSF ADVANCE and related programs, as well as resources already developed locally.

4.1 Recruiting: UBC FoS has entered a period of reduced hiring, due to budget cuts, the end of mandatory retirement, and the need to bridge Canada Research Chair and UFA hires. The discontinuation of NSERC's UFA program raises further challenges. It is critical that we plan carefully for the limited opportunities available for hiring in the short term, and use this time to better position ourselves for future hiring opportunities. Several models are already available, e.g. the Handbook and presentations of the STRIDE Committee at the University of Michigan's ADVANCE Program, resources developed and collected by the University of Washington's ADVANCE Program, and recruitment policies at the Arizona State University. In a recent analysis of progress in hiring women at MIT, Hopkins notes: "The data suggest that usual departmental hiring processes do not always identify exceptional female candidates. But, women faculty were readily hired by involvement of the central administration, including the use of novel hiring procedures, collaborations among the provost, deans, department heads, and women faculty committees, all with the visible support of the president."

The dean and associate dean will work with department heads and chairs of faculty search committees, and with staff in UBC Human Resources, to **develop and communicate faculty recruiting guidelines** that will better position us in identifying and attracting truly outstanding faculty. Strategies that have proven effective at other institutions include: developing a search plan, being proactive in seeking applicants from members of under-represented groups, conducting a broad search in which excellence is valued over expertise in a narrow sub-field, educating recruiting committees and departments on pitfalls of unintended bias when evaluating candidates, and weighing the degree to which candidates contribute to broadly defined institutional diversity goals. The Dean's Office will work to ensure that candidates unfamiliar with the negotiation process are not disadvantaged in offer negotiations. The associate dean will take responsibility to **document the practices**, in consultation with heads and recruiting chairs, and will work with departments as they implement the practices.

We need to be able to **accommodate partner hires**. It is very common for prospective science research and teaching faculty members to have partners who are outstanding academic scientists; without a partner accommodation plan, we will be unable to recruit the best scientists. To accommodate partners who are qualified for positions in Science, the dean has requested funds – through UBC's 2008 Strategic Priorities Fund – that can support partner hires in the short term. We will also advocate for support of partner hires outside of Science, and for a UBC-wide policy pertaining to partner accommodation (see section 4.4).

4.2 Policy Development and Documentation: Survey data from the Working Climate Assessment show some faculty dissatisfaction with fairness and transparency of policies and practices. Inevitably, as departments grow and change, policies that once worked well, or could be communicated informally, need to evolve. Additionally, new policies are needed to address needs such as partner accommodation, research support during maternity and/or parental leave, or work schedules of dual-career or single parents who are bounded on both ends by school and childcare hours. Poor documentation of policies can lead to inequities at merit review, retention, or promotion time, or in awards nominations, when expectations are not clearly communicated or understood. In turn, real or perceived inequities result in a loss of productivity, and fuel personal dissatisfaction and a deterioration of collegiality.

The Dean's Office will **organize a series of leadership workshops**, involving department heads and members of FAC@FoS. A key purpose of these workshops will be to share current practices, and to facilitate documentation of these practices. Workshops planned for spring 2008 have focused on research support during maternity and parental leaves, and on policies pertaining to teaching reductions. Future workshops will cover topics such as recruiting practices, merit review, awards nominations, space allocation, and support for work/life balance within departments. Our workshops will be loosely modeled on the popular and successful Leadership Workshops, which were a key component of the University of Washington's NSF ADVANCE program. While coordinated by the FoS office, we expect that the drivers of these workshops will be FAC@FoS members and department heads. Outcomes of these workshops will include **development and on-line documentation of principles at the FoS level**. These principles will then guide more detailed policy refinement and documentation within departments. Finally, the Dean's Office will provide a small amount of funding for policy documentation within departments.

4.3 Mentoring and Career Feedback: It is a requirement in all of UBC's FoS departments that mentors be assigned to new faculty. The FoS Report on Mentoring of New Faculty provides valuable suggestions for mentoring during the transition period following arrival at UBC. However, the mentoring report has not been accessible on-line, and much of its focus is on what administrators can do. Faculty members report a lack of flexibility in choosing and changing mentors, and there is often little follow-up on how the mentoring relationship is working. Faculty also report confusion about the roles and expectations of mentors. We note that UBC does offer useful mentoring and coaching, particularly with respect to teaching, through the Teaching and Academic Growth (TAG) workshops, Human Resource's workshops and coaching, and teaching resources offered by Skylight and the Carl Wieman Science Education Initiative (CWSEI).

As a result of the strong recruiting efforts in the late 1990's and early 2000's, there has been a large increase recently in promotions to the rank of an associate professor (of our current faculty, six were promoted to Associate in 2003, compared with 20 in 2007). Additionally, because of the attention paid to equity in the late 1990's, roughly 30% of our associate professors are women – significantly more than at the assistant (22%) or full professor (7.7%) levels. For these reasons, and because of the lag in time to promotion for women that was reported in the Working Climate Assessment, it is particularly important to ensure that our associate professors are getting the support they need to set and accomplish their career goals. There are few mechanisms for faculty members to get substantive career feedback or mentoring post-tenure. Yet, the post-tenure period is a time when faculty members enter a quite different phase of their career, often requiring new management and leadership skills as the scale of research or educational efforts grow. These years often coincide with the raising of young children, and the "post-tenure blues".

We propose to strengthen **departmental one-on-one mentoring for junior faculty**: by ensuring that heads, mentors, and mentees understand the role of mentors, establishing periodic check-in with junior faculty on mentor assignment, assessing whether junior faculty are satisfied with the level of mentoring they are receiving, supporting mentors in their roles, and providing on-line documentation of current mentoring practices. We will also find ways to provide mentors from outside the department to faculty members, when appropriate. Second, we will work with department heads to develop practices for providing timely career feedback to post-tenure associate professors. For both junior and mid-career faculty, there are models to build on, such as U. Toronto's Stepping Forward Mid-Career Faculty Workshop series, U. Washington's mentoring resources, U. Wisconsin's Women Faculty Mentoring Program, or career mentoring workshops of professional societies such as the Computing Research Association's mentoring workshops for junior and post-tenure faculty.

4.4 Advocacy for Family and Housing Support: We are pleased that additional childcare slots at UBC are expected to be available in 2009. This is a positive first step in addressing the problems faculty, staff and students currently face. We will advocate with the provost and the senior administration for additional support for faculty, including:

- **A family support office at UBC**. Such an office could help members of the UBC community advocate for further childcare slots. (We note that of the 96 slots scheduled to be added, only 33 are projected to be available to faculty and staff.) Another important role of the office would be to help faculty to locate quality childcare in their neighbourhoods. The University of Toronto's Family Care Office is an excellent model, providing free confidential information, guidance, referrals and advocacy on childcare, elder care or other family resources. The office could also monitor need for further childcare slots and address other challenges for faculty with children, such as the fact that reading week is not aligned with spring break in schools, that faculty whose children leave UBC childcare during a sabbatical leave are not guaranteed spots for their children upon their return, and that the city and province also need to provide more childcare options.

- **A plan for backup emergency care**. The Work Options Group already provides emergency back-up dependent care options to several universities in the US, and is in a position to do so in Vancouver. At U. Toronto, backup childcare is provided by Kids and Company.

- **Centralized support for partner accommodation.** In addition to bridging support for faculty slots for qualified academic partners, many universities now help identify career opportunities for partners. Examples include the Dual Career Program at U. Michigan (which includes three full-time senior administrative staff, secretarial staff, and two academic vice-provosts) the Dual-Career Network at U. Iowa, the Partner Accommodation Resources at U. Washington, and the Spouse/Partner Employment Assistance Services at U. Toronto. A recent report from Stanford University, "Dual-Career Academic Couples: What Universities Need to Know", provides valuable suggestions on university policy. The lack of support on these fronts currently puts UBC at a significant disadvantage in recruiting.

- **Support to offset housing costs**. Many of our faculty, particularly junior faculty with young families, can no longer afford to purchase a home within a reasonable commuting distance from campus. Creative solutions, that can help faculty enter the housing market, are acutely needed.

4.5 Collegiality: The mentoring support and leadership workshops described above will address ways to foster a positive climate, and to recognize and reward the diverse and often non-traditional contributions of our faculty members. We will complement these with other opportunities for Science faculty to network. For example, with Carl Wieman and staff at the CWSEI and TAG, we are organizing a series of sessions for junior Science faculty in Fall 2008, to help foster community and to offer practical advice on teaching and/or research at UBC.

Professor Emerita Judy Myers has maintained an e-mail list of female faculty in Science and Applied Science as well as faculty doing scientific research in other departments. Judy has organized a lunch annually to bring this group together (covering the costs herself). The Dean's Office will offer to continue maintenance of this list, and cover the cost of the annual lunch. The Dean's Office will also provide support for networking among faculty in other groups, pending interest expressed by faculty, and invites members of such groups to let us know what would be most useful.

4.6 Sustaining good practices: We want to ensure that effective practices are continued and refined when people in leadership positions – heads, dean, associate dean and FAC@FoS members – change. Detailed FoS equity plans from the 1990's are archived in the UBC Equity Office, but since the existence of these documents is now unfortunately not known to many FoS department heads and administrators who arrived at UBC since that time, FoS is no longer benefiting from much of the significant effort put into these. Similarly, valuable information in the FoS Report on Mentoring of New Faculty document (2004), and the Report on Parental Leave Policies at UBC (2004) was not easily accessible to faculty (now made available online), and needs to be updated.

We will plan for on-line documentation and dissemination of new policies and practices, making them easily accessible to heads and faculty members from a UBC Science Faculty Affairs page on the FoS website. Documentation will include responsibilities of the Dean's Office, so that faculty can remind us when we drop any balls. Attention by the upper administration to practices at the Faculty level will also help. For example, a periodic review of progress on diversity goals by the UBC Equity Office or upper administration, and of FoS policies, or integration of sound practices developed in FoS across the university, can help ensure that goals and policies are not forgotten when people in leadership positions change, and that they are refined as appropriate.

5 Measuring our Progress

Evaluation of new practices will guide our efforts, enable us to assess whether we are achieving our goals, and help us disseminate and sustain effective strategies. The NSF ADVANCE guide to program evaluation provides useful guidelines.

5.1 Metrics: We recognize that metrics are insufficient to understand the full range of diversity in our faculty, or to measure progress in areas such as quality of mentoring or effectiveness of policies. However, metrics are useful in evaluating some of our strategies, and can suggest where more effort should be focused. We have identified some useful metrics below. To the degree possible, while protecting confidentiality and ensure anonymity, each metric will be broken down by population groups designated by the Federal Contractors Program: women, visible minority, aboriginal people and people with disabilities. Data on these metrics will be shared with department heads, FoS Faculty Affairs Committee members, and the advisory committee annually. High-level summaries (omitting financial details, for example) will be made publicly available. In addition to the quantitative information in the table below, progress in documenting policies will be visible from a FoS Faculty Affairs website.

Goals	**Metrics (*broken down by under-represented group*)**	**Source of data**

Increase representation: *recruiting*	• Total number hired annually at each rank
	• For each job search:
	  • number of applicants
	  • comparison with available applicant pool
	  • number on shortlist
	  • number of offers
	  • number of accepts
	  • value of start-up package
	• Number of partner hire attempts, number of successes
		• Dean's Office
		• Departments
		• Dean's Office

Increase representation: *retention*	• Number of people leaving each year, by rank, and circumstance (e.g. retirement, industry, other academic institution) • Average amount of retention funds allocated per retention case	• Departments • Dean's Office

Achieve equity: *tenure, promotion, and leadership*	• For each person tenured or promoted:
	  ○ Time since PhD
	  ○ Time since hired at UBC or last promotion at UBC
	  ○ Time taken on leave
	• Number of people in leadership positions (institute director, associate dean, head, associate head)
		• Dean's Office

5.2 Ongoing Evaluation and Oversight: Surveys will be used to assess ongoing needs, gauge satisfaction of participants with workshops and documented resources, and inform refinements of our strategies. In addition, the Working Climate Survey will be repeated in 2011, to measure changes in faculty perceptions of climate.

To provide oversight and guidance, we will establish an advisory committee, who will be available for consultation, to provide feedback annually on progress, and input on programs at other institutions.

5.3 External Review: A small external review team was invited to provide an initial review of this plan, and will be asked to perform a third-party review of progress after four years.

6 Acknowledgements

The goals and strategies outlined here follow the recommendations of the Working Climate Assessment, and are informed by discussions with department heads and faculty members across all FoS departments. We also appreciate strong support from staff in the FoS Dean's Office, our colleagues at the UBC Equity Office, and the Centre for Women and Gender Studies, staff in Human Resources, UBC's Academic Leadership Development Program, faculty colleagues across campus, particularly in Engineering and Medicine, and the NSERC Chairs for Women in Science and Engineering.